marroquin international organic commodity services, inc.

August 12, 2005

Mr. Arthur Neal
Director, Program Administration
National Organic Program
USDA – AMS – TMP – NOP
1400 Independence Avenue SW
Room 4008, South Building, Ag Stop 0268
Washington, DC 20250

Re: Docket No. TM-04-07
National Organic Program, Sunset Review
Comment That Conventional Yeast [§ 205.605(a)] Should No Longer Be Allowed in Organic Agricultural Handling

Dear Mr. Neal:

Conventional yeast is currently listed in the National Organic Program (NOP) Final Rule in 7 CFR § 205.605(a) as a nonagricultural (nonorganic) nonsynthetic substance allowed as an ingredient in or on processed products labeled as "organic" or "made with organic…." This listing is no longer appropriate. Conventional yeast should no longer be allowed in organic agricultural handling, for the following two reasons:

First, yeast is produced commercially under organic methods in Europe and can be available to yeast users in the United States as a certified organic product. In 1995, when the National Organic Standards Board (NOSB) voted to place yeast on the National List, organic yeast was not yet available. Now organic yeast can become an alternative to conventional yeast in organic processed foods. Therefore, under the second of the three criteria for eligibility for the National List set forth in the Organic Foods Production Act (OFPA), conventional yeast is no longer "necessary to the…handling of the agricultural product because of the unavailability of wholly natural substitute products."[1] Organic yeast, a "wholly natural substitute" and an organic product to boot, is fully available.

[1] 7 U.S.C. § 6517(c)(1)(A)(ii)

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Second, while we have no evidence that the use of conventional yeast as a food ingredient would be harmful to human health or the environment, the manufacturing process for conventional yeast compared to organic yeast is not consistent with organic farming and handling. The annotation for yeast in 7 CFR § 205.605(a) does have certain safeguards. It does not permit yeast in organic products that is grown on a petrochemical substrate or on sulfite waste liquor. In the case of smoked yeast, it requires documentation of a nonsynthetic smoke process. However, these restrictions do not begin to cover all the objectionable aspects of conventional yeast production. Unlike organic yeast, the manufacture of conventional yeast relies on ammonia (NH_3), sulfuric acid, caustic soda lye, synthetic vitamins and a synthetic anti-foaming agent. The process yields wastewater that must be treated before disposal. Overall, this makes the manufacture of conventional yeast not "consistent with organic farming and handling," the third of the three criteria in OFPA.[2]

In the remainder of this letter, I will discuss these two points in more detail.

1. Availability of Yeast in the United States as a Certified Organic Product

The five types of yeast products identified in § 205.605(a), autolysate, bakers, brewers, nutritional and smoked, are different strains of the same organism, *Saccharomyces cerevisiae*. When they were first proposed for the National List, this was based on the widespread "conventional wisdom" throughout the 1990s that yeast was one substance needed in food that could not be produced organically. In the legislative history leading up to the passage of OFPA, the report of the Senate Agriculture Committee, on July 6, 1990, had cited yeast as a food ingredient that potentially could be placed on the National List since it was an example of "items that are not technically organically produced."[3] Three years later, when the NOSB was first developing its recommendations for placing some processed food ingredients on the National List, yeast had still been identified as among the "non-synthetic materials that cannot be produced organically."[4]

The TAP reviews for the five types of yeast products, prepared in August and September, 1995, concluded that there were no natural alternatives to conventional yeast, except that for smoked yeast, an ingredient used for flavor, one TAP reviewer suggested that smoked meats themselves could serve as an alternative. On November 1, 1995, the NOSB voted to place all five types of yeast on the National List, and this is the origin of the listing in the current Final Rule.

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[2] 7 USC § 6517(c)(1)(A)(iii).
[3] Senate Report No. 101-357, p. 299.
[4] Minutes of NOSB meeting, Fargo, Arkansas, September 23, 1993, quoting report by Richard Theuer to the full NOSB on behalf of the Board's Processing, Handling and Labeling Committee.

Meanwhile, a German manufacturer, Agrano GmbH & Co. KG, in Riegel am Kaiserstuhl, a small town near Freiburg, Germany, had begun work in 1980 that led to the development of a process for making yeast organically. In 1995 Agrano began commercial marketing of its Bioreal® organically produced yeast. Two organic certifiers based in Europe, Lacon GmbH in Germany (an NOP Accredited Certifying Agent) and BioSuisse in Switzerland, have granted organic certification to Agrano's yeast manufacturing operations. In addition, two organic certifiers based in the U.S., Oregon Tilth and QAI, currently certify Agrano's organic yeast under the NOP rules.

In 2002 our firm, Marroquin International, began importing Bioreal® into the United States. Enclosed is a brochure that describes the full line of Bioreal® yeast products as well as technical information on how this organic yeast is manufactured.

We then learned, however, that organic yeast has a peculiar status under the NOP Final Rule. On the National List yeast is classified as a "nonagricultural substance." This designation in the Final Rule has prevented organic yeast from being officially recognized as an "organic" ingredient. Our prime market would be those organic processors who have been using yeast as a minor nonorganic ingredient in the final 5% of ingredients in a wide range of "organic" processed products. The NOP staff has ruled that these processors are not required to source organic yeast for the final 5%.[5] Without the regulatory requirement to use our organic yeast, processors will naturally choose to continue to use less costly conventional yeast.

As you know, on July 30, 2004, our firm submitted a request to the NOSB to have yeast reclassified as an "agricultural product." This would make organic yeast eligible to be recognized as an organic ingredient, and its use would then be required in the final 5% if it was "commercially available."[6] We expect to succeed in having yeast reclassified as an "agricultural product" in the current National List. However, as we have stated above, since organic yeast is fully available and since the manufacture of conventional yeast is so inconsistent with organic farming and handling, we are requesting here to have yeast entirely removed from the National List through the sunset procedure.

Certain processors have been using our yeast in the final 5%, for such products as baked goods and Vitamin B supplements. After making the switch from conventional to organic yeast, these processors have found organic yeast a fully acceptable substitute in terms of its function and

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[5] Letter from Richard Mathews, NOP Program Manager, February 11, 2004, to Richard D. Siegel.
[6] 7 CFR § 205.301(b).

its effect. On request we can supply the names of these customers, provided that it is treated as confidential business information.

Other processors have been using our organic yeast in larger quantities, because in their products, such as savory flavors, soup bases and nutritional supplements, yeast would normally make up more than 5% of the ingredients. These processors of "organic" or "made with organic..." products count the organic yeast as an ingredient that helps them reach either the 70% or the 95% organic content threshold. Likewise, these processors have found organic yeast a fully acceptable substitute in terms of its function and its effect. Our policy on releasing the names of these customers is the same as previously mentioned.

As an additional sign of the growing acceptance of Bioreal® organic yeast throughout the world, Agrano handled 1,500 metric tons of fresh yeast in 2003 and 1,700 metric tons in 2004. It sold most of this output as fresh yeast, and utilized the remaining fresh yeast to produce yeast flakes and extract.

2. Conventional Yeast Is Not Consistent with Organic Farming and Handling

Agrano has worked for many years to develop Bioreal® organic yeast because of the view held in Europe that the various chemicals used in cultivating yeast microorganisms in conventional yeast production were not compatible with organic farming or food processing. An organic research article in 2002 cited Agrano's role as a pioneer in finding "totally new methods for the technical production of yeast." [7]

Yeast microorganisms are cultivated and propagated in nutrient media, or substrates. In the research article just cited, the author, Mr. Beck, observed that in yeast production, the substrates themselves might originate as agricultural materials, such as molasses, but in the production of the yeast, they are exposed to numerous synthetic chemicals.

> ...[I]n yeast production the main source of carbon used is molasses, a byproduct of sugar production. As molasses is mainly made up of carbon, the yeast grows best if phosphorous and nitrogen are added during the production process. Ammonia, or ammonium sulphate or nitrate, is normally used as a source of nitrogen, while monoammon-

[7] Alexander Beck, Research Institute of Organic Agriculture (FiBL), Berlin, "Starter Cultures – To Be Allowed as a Matter of Course!?" September 18, 2002, at p. 6 (copy of article enclosed).

> ium or diammonium phosphate is usually used as the source of phosphorous. In addition, a series of further substances are used to control the PH value (sulphuric acid, sodium hydroxide) as anti-foaming agents, and so on. Micronutrients such as synthetic vitamins are also used to boost growth. [8]

Mr. Beck's article further points out that the yeast product must be rinsed twice, and that the resulting wastewater is not easily degradable. He concludes, "These substances are not compatible with the view of food production held by the organic farming community." [9]

Organically produced yeast avoids the heavy involvement of chemicals that Mr. Beck's article describes. Information supplied by Agrano in its brochure (enclosed) explains this clearly, as follows:

- Since a substrate of molasses as a sugar source would require the addition of nitrogen and phosphorous, organic yeast starts out with a substrate of organically farmed grain instead of molasses.
- The nitrogen source is organically farmed grain and brewer's yeast, instead of ammonia.
- While conventional yeast relies on sulphuric acid and lyes such as caustic soda lye to regulate the pH, there is no need to regulate the pH level in making organic yeast.
- In organic yeast, the natural medium provides sufficient growth enhancement so that there needs to be no synthetic vitamins or mineral salts for that purpose. .
- Instead of a synthetic antifoaming agent, organic yeast uses organically farmed sunflower oil.
- Rinsing is necessary twice in conventional yeast production. In organic yeast production, because no chemicals have been used, rinsing is unnecessary.

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[8] Beck, pp. 2-3
[9] Beck, p. 3

- The end of the conventional yeast production process yields wastewater, which must be treated before disposal. The byproducts in organic yeast production are simply used as raw material for a new production cycle.

Thus, organically produced yeast should not be seen as a frill or gimmick, but instead as a technological contribution to the advancement of organic food processing. Organically produced yeast exposes the fact that the manufacture of conventional yeast unnecessarily utilizes so many chemicals and unnecessarily results in wastewater that requires treatment before it can be released. When the production methods and materials of conventional yeast and organic yeast are compared, side-by-side, we feel that this makes the case that conventional yeast is not "consistent with organic farming and handling."

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Conclusion

For the reasons I have given, we request to the NOSB that yeast not remain on the National List following the sunset. Organic yeast is fully available as a substitute for conventional yeast. Conventional yeast, because of the chemicals used in its manufacturing, and the chemical-laden wastewater it generates that requires treatment, is not "consistent with organic farming and handling."

Thank you very much for your assistance in this matter.

Sincerely yours,

Grace Marroquin, President
Marroquin International Organic
Commodities Services, Inc.

Enclosures:
Bioreal® Brochure
Organic Research Article, 2002, by Alexander Beck

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